

## PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 756 AND NEWTOWNE BOULEVARD IN WORCESTER COUNTY. MD 756 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

## INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH EXCLUSIVE-PERMISSIVE LEFT TURN PHASES FOR EASTBOUND AND WESTBOUND MD 756, A PEDESTRIAN PHASE ACROSS THE EAST LEG OF THE INTERSECTION AND CONCURRENT SIDE STREET PHASING.

## CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH SYSTEM PACKAGE AND ONE (1), FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIER AND VIDEO DETECTION INTERFACE EQUIPMENT HOUSED IN A POLE MOUNTED CABINET.

## SPECIAL NOTE

- UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF THE MSHA AT (410) 787-7635 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR MUST PROVIDE MR. SNYDER WITH THE NEAREST ADDRESS, ZIP CODE, AND PHONE NUMBER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLES, EXTENDING THE INTERCONNECT TO THE APPROPRIATE TERMINALS AND SHALL PROPERLY LABEL EACH CABLE.

## PHASING CHART

	1	2	3	4	5	6	7	8	9	10	
PHASE 1 & 5	R	R	R	R	R	R	R	R	R	R	
PHASE 1 & 5 CHANGE MAY CHANGE TO PHASE 1 & 6, 2 & 5 OR 2 & 6											
PHASE 1 & 6	R	R	R	R	R	R	R	R	R	R	
1 CHANGE	R	R	R	R	R	R	R	R	R	R	
PHASE 2 & 5	R	R	R	R	R	R	R	R	R	R	
5 CHANGE	R	R	R	R	R	R	R	R	R	R	
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	
2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	
PHASE 4 & 8	R	R	R	R	R	R	G	G	G	G	
4 & 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	
PHASE 4 & 8 ALT.	R	R	R	R	R	R	G	G	G	G	
PED CLEAR	R	R	R	R	R	R	G	G	G	G	
4 & 8 ALT. CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	

## EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR. ALL EQUIPMENT SHALL HAVE CATALOG CUTS SUBMITTED TO THE OFFICE OF TRAFFIC AND SAFETY FOR APPROVAL PRIOR TO INSTALLATION.

QUANTITY	DESCRIPTION
LS	MAINTENANCE OF TRAFFIC
5 CY	TEST PIT EXCAVATION
120 LF	FURNISH AND INSTALL 12 IN. WHITE HEAT APPLIED THERMOPLASTIC PAVEMENT MARKING
110 LF	FURNISH AND INSTALL 24 IN. WHITE HEAT APPLIED THERMOPLASTIC PAVEMENT MARKING
430 LF	REMOVAL OF EXISTING PAVEMENT LINE MARKING - ANY WIDTH
2 EA	FURNISH AND INSTALL 250 FT. VIDEO DETECTION CABLE
2 EA	FURNISH AND INSTALL 500 FT. VIDEO DETECTION CABLE
2 EA	OUT, CLEAN, AND CAP TRAFFIC SIGNAL STRUCTURE
32 EA	FURNISH AND INSTALL 12 IN. VEHICULAR SIGNAL HEAD SECTION
1 EA	FURNISH AND INSTALL 15 FT. STREET LIGHTING ARM
1 EA	FURNISH AND INSTALL 250 WATT HPSV LUMINAIRE
6 EA	FURNISH AND INSTALL 8 IN. VEHICULAR SIGNAL HEAD SECTION
1 EA	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT
1 EA	FURNISH AND INSTALL 16.5 FT. MAST ARM POLE AND 70 FT. MAST ARM (15 FT. "T" DIMENSION)
3 EA	FURNISH AND INSTALL NON-INVASIVE MICRO-LOOP PROBE SET WITH 500 FT. LEAD-IN
2 EA	FURNISH AND INSTALL PEDESTRIAN SIGN AND PUSHBUTTON (SIGN TO READ "PUSH BUTTON TO CROSS OLD SNOW HILL RD")
4 EA	FURNISH AND INSTALL VIDEO DETECTION CAMERA
1 EA	FURNISH AND INSTALL VIDEO INTERFACE EQUIPMENT
540 LF	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED
540 LF	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - BORED
16 CY	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
68 LF	FURNISH AND INSTALL WOOD SIGN SUPPORTS (4 IN. X 4 IN.)
400 LF	FURNISH AND INSTALL NO. 6 AWG STRANDED BARE COPPER WIRE
50 LF	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - BORED
250 LF	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - SLOTTED
20 LF	FURNISH AND INSTALL 2 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED
50 LF	FURNISH AND INSTALL ELECTRICAL CABLE 1-CONDUCTOR (NO. 4 A.W.G.)
11 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
930 LF	FURNISH AND INSTALL 12-PAIR COMMUNICATION CABLE - UNDERGROUND
5 EA	FURNISH AND INSTALL GROUND ROD 3/4 IN. DIAMETER X 10 FT. LENGTH
400 LF	FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR (NO. 14 A.W.G.)
100 LF	FURNISH AND INSTALL ELECTRICAL CABLE 5-CONDUCTOR (NO. 14 A.W.G.)
1350 LF	FURNISH AND INSTALL ELECTRICAL CABLE 7-CONDUCTOR (NO. 14 A.W.G.)
120 LF	FURNISH AND INSTALL ELECTRICAL CABLE 2-CONDUCTOR (NO. 12 A.W.G.) - TRAY CABLE
1 EA	FURNISH AND INSTALL BASE MOUNTED CABINET AND CONTROLLER
1 EA	FURNISH AND INSTALL 4-CHANNEL, TIME-DELAY-OUTPUT, LOOP DETECTOR AMPLIFIER
2 EA	FURNISH AND INSTALL D3-2 DUAL FACE SIGN (VAR. X 16") - MAST ARM MOUNT
1 EA	FURNISH AND INSTALL R3-6(L) SIGN (30" X 36") - MAST ARM MOUNT
2 EA	FURNISH AND INSTALL W3-3 SIGN (48" X 48") - GROUND MOUNT
2 EA	FURNISH AND INSTALL SHA STANDARD SIDEWALK RAMP
1 EA	FURNISH AND INSTALL 27 FT. STEEL POLE WITH A 50 FT. MAST ARM
1 EA	FURNISH AND INSTALL 27 FT. STEEL POLE WITH TWIN 50 FT./70 FT. MAST ARMS
3 EA	REMOVE EXISTING PAVEMENT MARKING ARROW
700 LF	FURNISH AND INSTALL 5 IN. YELLOW HEAT APPLIED THERMOPLASTIC PAVEMENT MARKINGS
120 LF	FURNISH AND INSTALL 5 IN. WHITE HEAT APPLIED THERMOPLASTIC PAVEMENT MARKINGS
170 LF	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID ELECTRICAL PVC CONDUIT - TRENCHED
1 EA	FURNISH AND INSTALL 14 FT. BREAKAWAY PEDESTAL POLE
2 EA	FURNISH AND INSTALL SHIELD ASSEMBLY (48" X 75") - GROUND MOUNT
2 EA	FURNISH AND INSTALL SHIELD ASSEMBLY (30" X 51") - GROUND MOUNT
1 EA	FURNISH AND INSTALL 16 FT. BREAKAWAY PEDESTAL POLE

## EQUIPMENT LIST "A"

A. EQUIPMENT TO BE FURNISHED BY THE SHA AND INSTALLED BY THE CONTRACTOR

ITEM NO.	QUANTITY	DESCRIPTION
NONE		

## EQUIPMENT LIST "C"

C. EXISTING EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076. THE CONTRACTOR SHALL NOTIFY THE SHA AT (410) 787-7652 AT LEAST THREE DAYS IN ADVANCE OF DELIVERY.

ITEM NO.	QUANTITY	DESCRIPTION
NONE		

ALL SIGNAL EQUIPMENT TO BE REMOVED AND NOT RETURNED TO THE SHA SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

## CONTACT PERSONS FOR DISTRICT 1 ARE AS FOLLOWS:

MR. GENE COPIELL  
ASSISTANT DISTRICT ENGINEER - TRAFFIC  
(410) 677-4040

MR. JAMES WRIGHT  
ASSISTANT DISTRICT ENGINEER - MAINTENANCE  
(410) 543-6715

MR. BRUCE POOLE  
ASSISTANT DISTRICT ENGINEER - UTILITIES  
(410) 787-4082

## CONTACTS FOR OFFICE OF TRAFFIC AND SAFETY

MR. RICHARD DAFF, SR.  
CHIEF, TRAFFIC OPERATIONS  
(410) 787-7630

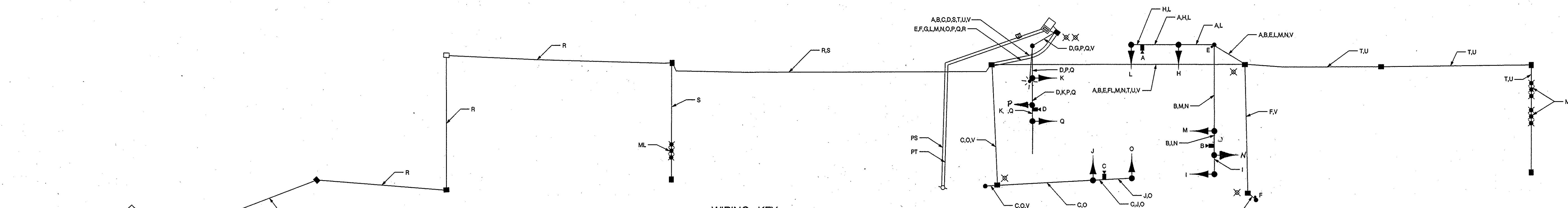
MR. EUGENE BAILEY  
TEAM LEADER SIGN OPERATIONS  
(410) 787-7676

MR. ROBERT SNYDER  
ASSISTANT DIVISION CHIEF,  
TRAFFIC OPERATIONS  
(410) 787-7631

MS. DARLENE EIDE  
SUPPLY OFFICE  
SIGNAL SHOP WAREHOUSE  
(410) 787-7668

MR. ED RODENHIZER  
TEAM LEADER SIGNAL OPERATIONS  
(410) 787-7652

## WIRING DIAGRAM



### WIRING KEY

A-D	VIDEO DETECTION CABLE
E-F	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
G	2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)
H-K	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
L-Q	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
R	12-PAIR VOICE GRADE INTERCONNECT CABLE
S-U	MICRO-LOOP PROBE LEAD-IN
V	STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
PS	PROPOSED ELECTRIC SERVICE
ML	GROUND ROD
EC	MICRO-LOOP PROBE EXISTING CABLE
PT	PROPOSED TELEPHONE SERVICE

**TRAFFIC CONCEPTS, INC.**  
325 Gambrills Road  
Suite E  
Gambrills, MD 21054  
(410) 923-7101  
FAX (410) 923-6473  
EMAIL TRAFFIC.CONCEPTS@COMCAST.NET

**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
OFFICE OF TRAFFIC & SAFETY  
TRAFFIC ENGINEERING DESIGN DIVISION  
**GENERAL INFORMATION PLAN**  
MD 756 AND NEWTOWNE BLVD.

SCALE	NONE	DATE	1-4-06	CONTRACT NO.	BW990M82
DESIGNED BY	T. ZAYDEL	COUNTY	WORCESTER		
DRAWN BY	T. ZAYDEL	LOGMILE	23075600.13		
CHECKED BY	K. SCHMID	T.I.M.S. NO.	H 283		
F.A.P. NO.	NA	TOD NO.			
DRAWING NO.	4458 GI	SHEET NO.	3	OF	3